

11/1/2005 1:31:49 PM

[File 9] Business & Industry(R) Jul/1994-2005/Oct 31
 [File 15] ABI/Inform(R) 1971-2005/Nov 01
 [File 16] Gale Group PROMT(R) 1990-2005/Oct 31
 [File 18] Gale Group F&S Index(R) 1988-2005/Oct 31
 [File 20] Dialog Global Reporter 1997-2005/Nov 01
 [File 36] MetalBase 1965-20051027
 [File 80] TGG Aerospace/Def.Mkts(R) 1982-2005/Oct 31
 [File 148] Gale Group Trade & Industry DB 1976-2005/Nov 01
 [File 160] Gale Group PROMT(R) 1972-1989
 [File 256] TecInfoSource 82-2005/Jan
 [File 275] Gale Group Computer DB(TM) 1983-2005/Oct 31
 [File 481] DELPHES Eur Bus 95-2005/Oct W4
 [File 583] Gale Group Globalbase(TM) 1986-2002/Dec 13
 [File 621] Gale Group New Prod.Annou.(R) 1985-2005/Nov 01
 [File 624] McGraw-Hill Publications 1985-2005/Nov 01
 [File 635] Business Dateline(R) 1985-2005/Nov 01
 [File 636] Gale Group Newsletter DB(TM) 1987-2005/Oct 31
 [File 647] CMP Computer Fulltext 1988-2005/Oct W3
 [File 696] DIALOG Telecom. Newsletters 1995-2005/Oct 31

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S3	2265	HAND()HELD()PRODUCTS
S4	17	CO='CIRQUE NETWORKS INC':CO='CIRQUE NETWORKS INC.'
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S6	2	CO='WELCHALLYN' FROM
S7	748	CO='WELCH ALLYN':CO='WELCH ALLYN (UK)' OR CO='WELCH ALLYN DATA COLLECTION':CO='WELCH ALLYN INC. DATA COLLECTION DIV.
S8	2981	S WELCH()ALLYN
S9	367880	S SIEMENS
S10	64	CO='SIEMENS POWER':CO='SIEMENS POWER & TRANSMISSION'
S11	372417	S S1:S10
S12	181370	S (SYMBOL???? OR CODE? ? OR BARCODE? ? OR DATA)(3N)GENERAT????
S13	4049	S S11 AND S12
S14	198510	S GUI? ? OR GRAPHICAL()USER()INTERFAC????
S15	212	S S13 AND S14
S16	1265	S RECONFIG?(3N)(DEVICE OR MEANS)
S17	0	S S15 AND S16
S18	2135898	S SCREEN??? OR DISPLAY???
S19	92	S S15 AND S18
S20	3852632	S RECONFIG???? OR UPDAT?????? OR CONFIG???? OR REPROGRAM??????
S21	68	S S19 AND S20
S22	53	RD (unique items)
S23	45	S22 AND PY<=2003
S24	709959	(HANDHELD OR HAND()HELD OR PORTABLE? ? OR COMPACT OR MOBILE)(3N)(DEVICE? ? OR MEANS OR SYSTEM? ?)
S25	17	S S23 AND S24

25/9/2 (Item 1 from file: 15)

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ABI/Inform(R)

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And the show stoppers were...

Anonymous

Frontline Solutions v2n13 pp: 14-17+

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Abstract:

The 2001 edition of Frontline Solutions Expo drew to a close on November 15. There is one thing all the editors can agree on: A downturn in the economy has in no way impacted new product introductions or creative thinking. Both were on full display throughout the show floor. Some highlights are presented.

Text:

The products, the agreements, and an acquisition or two

The 2001 edition of Frontline Solutions Expo drew to a close on Nov. 15. There is one thing all the editors can agree on: A downturn in the economy has in no way impacted new product introductions or creative thinking. Both were on full display throughout the show floor.

Here are some highlights:

Awards galore

Lots of awards were given out the evening before the show floor opened.

Kenneth Porad, program manager for Boeing's Permanent Bar Code Identification Program, was presented with the Don Percival Award, given to an individual or organization from the user community in recognition of outstanding contributions to the application of AIDC technologies. Porad was recently elected chairman of AIM's new global User Council.

Charles "Chuck" Biss, vice president of **Hand Held Products**, received the Richard R. billing Award, which recognizes outstanding careerlong contributors who have helped advance AIDC technologies in multiple industries.

In addition to the billing and Percival awards, the Frontline Solutions Top 100 Companies Awards, Supply Chain Innovator Awards and Total Solution Provider Awards were also announced.

Acquisition announced

Teklynx announced its acquisition of StrandWare on Nov. 9. Although there are many details still to be worked out indications are that Teklynx will continue StrandWare's LabelMatrix product (7.0 PRO was introduced at the show). Teklynx indicated that it will continue to support StrandWare's BackTrack product, which is seen as providing a strong data collection complement to Teklynx's software offerings, including label design and printing software, and a middleware product for enterprise resource planning (ERP) systems, as well as SAP-dedicated products.

Mobile

Psion Teklogix showed off its new netpad, a rugged hand-held tablet with a half-VGA screen. The large touchscreen allows mobile workers to view detailed graphics and data clearly. The netpad targets mobile sales, service and maintenance, field data collection, and track and trace markets. With an IP 67 rating, no internal drives or moving parts, and the ability to withstand a 1.5-meter drop to concrete, this tablet seems well equipped to go into just about any rough environment.

Compsee unveiled its Apex IV pistol-grip terminal with an optional integrated bar code scanner. It supports batch or RF operations, and is shipped with embedded physical inventory, asset inventory, check-in/check-out and route accounting applications. Compsee also showed the Apex III Program Generator for visually creating data collection applications, as well as a vehiclemount unit, the Apex VM-1, offered through a partnership with Intelligent Instrumentation.

Returning to the show after a long absence, and under new ownership, fixed and portable data collection terminal manufacturer Data Net showed off its Co-Log/Open data collection development tool kit. The software integrates with legacy supply chain and ERP systems, and supports data collection terminal from multiple manufacturers.

New at **Hand Held Products** was the Dolphin 7300 hand-held computer. The small form-factor device is based on Windows CE and features the company's IQ Advantage tool suite for capturing and editing images, signatures and bar codes.

Glacier Computer is offering the SmartTablet from fellow exhibitor Smarterterminal Computers. The pen tablet supports Windows 2000/ME/98 and Linux, and has IEEE 802.11 lb wireless LAN connectivity.

Intelligent Instrumentation, meanwhile, showed off the new touchscreen functionality of its LA LANpoint CE vehicle-mount and stationary terminals.

Radix displayed its Windows CE-based FW500 hand-held terminal. The 25-ounce unit supports a range of integrated optional peripherals, including a thermal printer, bar code reader and PC Cards.

Casio showed its entire line of consumer and rugged hand-held computers, while a host of partners demonstrated a variety of field service, route accounting, data collection and public safety software. The company also announced a partnership to combine its devices with IBM's wireless e-business services.

In addition to its hand-held computers and packaged applications for route accounting, field service and logistics, Intermec demonstrated its first wireless access point to support the upcoming 802.11 a standard for high-speed 5GHz wireless LANs, MobileLANaccess 2106.

LXE showcased its new Client Configuration Manager software, as well as its MX3-CE rugged hand-held and VX4 vehicle-mount terminals. The software reduces maintenance costs by allowing system administrators to remotely manage and configure their LXE computers from a Web-based console over industry-standard IP protocols-after normal shift hours or between shifts-without having to take the units out of service. LXE also showcased its partner, CloudBerry, whose widearea wireless services provide two-way communications to trucks on the road, seamlessly switching between metro networks and satellite coverage.

Mobile and wireless infrastructure software and application development tool providers were well-represented by Aether Systems, AvantGo, Epic Data, Broadbeam, Odyssey Software, PenRight!, Pumatech, WaveLink and others.

Wireless

A new service stood out from the numerous new offerings at Symbol Technologies. The company now offers Symbol Air-a bundled package of airtime, services and support for widearea wireless data services, to complement the company's range of wireless mobile computers and related software. The Wi-Fi wireless OEM developer kit, another new launch, will enable developers to add wireless capability to devices without an embedded operating system.

PSC introduced the Falcon 345/335 wireless data terminals, featuring a combination 486 processor, 8MB of RAM, and the capability of weathering the harshest environment. The 345 also includes a removable handle and several scanning options (standard, long range and advanced long range).

A development tool from RACO Industries enables integrators to add mapping, navigation and GPS-based vehicle location functions to existing software applications.

ADC-Scanning

Microscan ran a label testing and evaluation station in its booth to give attendees the opportunity to get immediate feedback from an engineer about their specific bar code application. The company also showed off its MS-880 fixedposition industrial scanner for tough production applications. It has a read range of 10 to 90 inches and can scan a small 20 mil bar code on a package traveling on a conveyor 7.5 feet away. It reads ID and 2D codes and has a scan rate of 1,000 per second.

Symagery showed a megapixel CMOS camera (model SX 4000) designed to fit the

existing handheld scanner bodies from Symbol Technologies though the company does not intend to build or market complete scanners.

Metrologic introduced IQI 80, a linear CCD over-the-belt imager that uses ultra-bright laser diode illumination, which simplifies lighting significantly.

Densi's new PCR 342 is a small CCD imager designed for integration into machine tools and similar devices.

ADC-Printing

Zebra Technologies introduced the rugged QL 320 mobile printer with QuickLink radio modules for networking connectivity. The QL 320 offers a range of communications options, including cable-ready to wireless networking. With an interchangeable QuickLink radio module, the printer can be configured for SRRF, Bluetooth, IRDA and 802.11 b wireless LAN connectivity.

Citizen America unveiled its new printer, the CLP 8301, a 8.5-inch, 300 dpi thermal bar code label unit. The goal was to make this as user-friendly as possible, so the printer features Datamax DMX 800 emulation and a universal power supply allowing for switchable 110 or 220 VAC application environments. Options include a PC Card slot for permanent storage of fonts, label formats and graphics, and an auto cutter.

Unibar unveiled its professional bar code labeling software, BARCODE 2000 5.0, with an enhanced GUI and new printer mapping for transparent support of multiple types of printers in enterprise networks. The mapping means no additional design work needs to be done to print labels to any type of printer on the network.

Printronic announced the release of PrintNet Enterprise, a Web-based printer manager that simultaneously provides the user with global broadcast print management capabilities and localized single printer control. Printronix also introduced a new alert system with PrintNet Enterprise With multiple levels of notification for each printer configuration, each error condition is routed to the right resource.

Tharo Systems unveiled the latest addition to its product line of label printer/applicators, the PA1000t/b. With tamp/blow capability, the printer/applicator is suited to apply labels to delicate products, or products with curved or uneven surfaces. The tamp pad delivers the label right above the product and the label is blown the rest of the way on.

Argox now offers printers with its self-developed emulator for the proprietary ZPL control language.

VIP Color showed a label printer based on an HP ink jet print engine. HP was involved in developing the print engine for this device, which will be able to provide up to 3 ips printing of fullcolor labels.

Hewlett-Packard showed "invisible" ink, which has both UV and IR properties. The UV component makes the mark somewhat visible (on a white substrate) under mercury-vapor lights (or any light source with a strong

component) but was added to make it possible for users to easily check the symbol during printing or for process setup.

Avery Dennison introduced the first 64-bit printer (using the Novexx 64-bit Intel-based print engine), which the company claims reduces pauses between printing for graphic-rich labels.

TEC joined the ranks of printer/applicator OEMs with a printer designed for use in applicators and also introduced a low-cost, 8-inch-wide thermal-transfer printer designed for kiosks.

Sato showed browser-based software that builds Web pages directly into its internal Ethernet connectors.

Lexmark showed a variety of multi-function, sheet-fed printers.

Microplex showed a high volume roll-fed printer.

ADC-Labels

Unibar released a new Internet Label Service for easy printing of custom and standard compliance labels from a Web site via a Web browser. The Unibar WebLabel Service allows suppliers to print labels from anywhere in the world by accessing the Web. It enables small and large companies to provide their smaller suppliers with worldwide compliance labels overnight. There is no software to download or label specification to learn.

ADC-Verification

Webscan demonstrated two moving beam laser verifiers for PDF 417 and RSS-14. The tabletop model offers a graphical view of the symbol and can also verify DataMatrix symbols that have symbol contrast. Cobra Systems featured what we consider unique products-verifiers that measure bar code symbol quality according to ISO, rather than ANSI, standards.

ADC-RFID/RTLS

In the RFID community the excitement started before exhibition did, when more than 400 people attended the day-long RFID Summit on Nov. 12, making it the largest RFID conference ever held. The buzz grew a day later when word spread that pallet-maker CHEP contracted Intermecc, Marconi InfoChain and Savi Technology for what will become the largest logistics implementation of RFID to date.

Savi Technology has been busy. The company announced the open licensing of its Universal Data Appliance Protocol (UDAP) which allows a common interface linking information from leading wireless data collection technologies to Savi's Web-based software program. Data collection companies can receive a royalty-free license and technical support to integrate the protocol, which supports real-time communication of captured data directly to Savi's SmartChain software platform on the Internet. So far, eight such companies have signed on. On the hardware side, Savi's new EchoPoint product line utilizes multiple wireless frequencies to provide

greater tracking precision.

Also, Savi and the United Nations Conference on Trade and Development (UNCTAD) formed a global partnership to help build the infrastructure for advanced logistics management, monitoring and security systems in developing nations. The global partners will deploy systems to improve the efficiency, reliability and sustainability of logistics information systems in Africa, Asia and South America.

The global collaboration between Savi and UNCTAD is expected to offer a combination of RFID systems and Web-based software on the Internet to provide real-time management, monitoring, measurement and maintenance of assets and equipment moving throughout the supply chain. This will help further improve logistics processes and utilization of assets, initially freight rail cars and their containers.

Marconi also featured an innovative tag to track vehicle tires, designed to comply with the standard AIAG is expected to ratify soon.

TAGSYS launched as an independent company. Formerly known as Gemplus Tag, the new company will focus on expanding its market in smart asset tracking. Headquartered in France and with subsidiaries on three continents, TAGSYS offers complete RFID systems from chip design, tags and smart labels, readers and antennas, to application-specific reading stations, compatible with its own chips and those of other companies.

Identec Solutions unveiled an active RFID tag, i-D2, that can track assets at the speed of sound (Mach 1). The tag not only is 10 times faster than existing technology, but it is offered at a fraction of the cost of traditional active UHF tags, according to the company. The tag has the ability to read data and locate assets using triangulation methods at Mach 1, offering a new level of sophistication in the RFID category and providing customers with a new option for automatic identification.

Omron's new V720 RFID gate reader allows greater throughput of product with its capability to read up to 128 Omron V720 RFID tags simultaneously. With the gate reader, the orientation of the tag does not matter, which benefits the user since they can't always guarantee the placement of tags. The width

of the RF curtain can be up to 1 M, allowing enough room for a person to pass through, thus enabling human applications.

Texas Instruments released new evaluation kits with all the components and software developers need to create and test sample applications. Kits are available for high and low frequency products.

Infineon showed high-memory capacity (up to 10K) 13.56MHz chips.

Software

Teklynx International introduced Labelview 7, the next generation of Labelview, with improved performance from its 32-bit print engine, enhanced driver and device support, better networking capabilities and the addition of new design and integration tools. The software supports more than 650 thermal-transfer printers. New features and tools include POF (printer object file) configuration manager, multiple document interface, graphic

drawing tools and a more Microsoft-like feature set.

WMS provider Ann Arbor Computer and SCT, supplier of business solutions for the process industries, formed an alliance to provide SCT's process manufacturing and distribution customers and prospects with Ann Arbor's pcAIM warehouse management system. Ann Arbor will also become a Preferred Solutions Partner for SCT's iProcess.sct solution.

Pitney Bowes Distribution Solution unveiled PB TMS Enterprise Edition Software, powered by Vertex Interactive. The Web-based, enterprise-wide, multi-carrier transportation management system can be operated from a centralized server and accessed via mobile terminals. An applet can be downloaded for running local printing, scanning and weighing devices.

TALtech introduced several new products, one of which didn't even have literature yet. TCP/corn for Windows CE is the new mobile version of the company's popular converter serial-toTCP/IP software. It allows any of the existing serial (RS232) ports on a mobile device to interface directly with a TCP/IP network. Other new products include CE-Wedge, for interfacing serial devices including bar code scanners, PDTs, GPS devices and other RS-232 devices to any Windows CE program, WinWedge 32, a 32-bit version of the data conversion software.

To rapidly build, test and deploy wireless data collection applications, DataMAX Software Group showed RFgen 2.6. This version has support for legacy and Windows CE devices, as well as the company's Resource Compiler, allowing it to connect to multiple databases. The company will be adding HTML browser capability late this year and an ezERP for SAP module in February. An RFgen Xpress version is also out for less than five users.

ScanSeek RF from RioScan lets users create a hand-held solution for almost any ODBC-compliant software package. The data source can be transmitted in real time to a wireless Pocket PCbased hand held, allowing the user to add, delete and edit items, as well as upload the updated information back to the original data source in real time. The most common application is replicating an Excel spreadsheet or an Access database on the hand held. Another new product is the WirelessWedge, software that will allow most wireless Palm OS devices to act as a network scanner.

ABC Tech continues to expand its Multiling translation product for bar code label design. Character-based languages including Chinese have been added to the list of available languages text can be automatically translated into, and the TransLink interface helps users get a jump start on their international applications by translating databases to be used with their data collection and printing systems.

Acsis came out with an interface that will put SAPConsole on hand-held terminals running Pocket PC. The streamlined interface gives users better access to their SAP system or the Internet.

Advanced Barcode Technology (ABT) exhibited PRIDE-2000, an asset security software system that works with hand-held terminals to authenticate assets in real-time or batch mode. Track personnel, assets, vendors, locations, points of entry, etc. The Windows program synchs with Palm or CE devices.

Neopost unveiled iLS.PRE-SHIP, its Webbased logistics software. The solution eliminated bottlenecks in the shipping room by enabling multiple users throughout the organization to pre-process parcels at their desktop computers. The software automatically sends an e-mail notification to both the sender and recipient that the parcel is shipped, by which carrier, with an estimated delivery time, and a link to the carrier's Web site for tracking.

HighJump Software released Warehouse Advantage Suite 5.0, which includes features such as event management, ease of upgradeability for existing customers and efficient integration with eXtensible Markup Language (XML). The release of the product addresses the need for manufacturers to provide fast and measurable return on investment (ROI), according to the company. The upgraded supply chain event management functionality contained in the release rounds out HighJump's supply chain execution solution, which includes warehouse management, transportation management, supply chain visibility and collaborative fulfillment.

FKI Logistics introduced EASYpick OPS v2.1. The order-processing software package, which integrates and optimizes multiple picking technologies, balances and coordinates order picking throughout the distribution center and provides real-time visual feedback to supervisors through a single interface to the warehouse management or host legacy system.

A new alliance between The Allen Group and Lowry brings the former's data collection modules to the latter's ADC solutions. The Allen Group offers modules for bar code and RFID applications in shop-floor control, inventory control, time/attendance, asset tracking and serial number tracking.

RoadWare from Open Road Technologies automates mobile sales and service. Using a Symbol hand held, workers can simplify the order entry process and run in wireless or batch mode. Open Road also provides complementary applications such as inventory tracking and fixed asset tracking.

Application platforms ADC Technologies released the x10DATA application platform, which caters to the needs of corporate IT developers, administrators and independent software vendors, who build packaged or custom enterprise applications; and systems integrators, who provide value-added integration services to customize applications for their clients.

Permanent part ID

Traceability Systems showed bumpy bar codes and a variety of mechanically stamped solutions (chisel, peeved).

Telesis demonstrated expertise in peening DataMatrix directly into a variety of substrates.

Dapra showed peening DataMatrix directly into a variety of substrates.

High-contrast direct marking was shown by InfoSight. Using a variety of silicon-based coatings (that can be optimized for red-hot glass,

low-surface tension plastics and other materials), a white reflective background is laid down.

Epilog exhibited a product that uses a special coating, which is applied to any material that will provide a light background (for example, aluminum).

Other news of note

UPS Professional Services and A2B Tracking Solutions unveiled an upgraded version of the Trackpad parcel tracking system. Upgrades to the hand-held computer include full-color display, 10 times the memory of the previous product and improved battery life.

For more information on Frontline Solutions Expo 2001 exhibitors and products, visit

www.frontlinexpo.com.

THIS IS THE FULL-TEXT.

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Geographic Names: United States; US

Descriptors: Awards & honors; Acquisitions & mergers; Manyproducts; Trade shows; Information technology

Classification Codes: 7300 (CN=Sales & selling); 5220 (CN=Information technology management); 2330 (CN=Acquisitions & mergers); 9190 (CN=United States)

Print Media ID: 40983

11/1/2005 1:55:13 PM

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 [File 65] Inside Conferences 1993-2005/Oct W4
 [File 92] IHS Intl.Stds.& Specs. 1999/Nov
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 [File 647] CMP Computer Fulltext 1988-2005/Oct W3
 [File 674] Computer News Fulltext 1989-2005/Oct W2
 [File 696] DIALOG Telecom. Newsletters 1995-2005/Oct 31

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S5	2	S CIRQUE()NETWORKS
S6	17	CO='WELCH ALLYN':CO='WELCH ALLYN PROTOCOL INC'
S7	221	S WELCH()ALLYN
S8	6	CO='SIEMENS POWER TRANSMISSION':CO='SIEMENS POWER TRANSMISSION AND DISTRIBUTION L.'
S9	6	CO='SIEMENS CORPORATE RESEARCH INC.'
S10	26	S SIEMENS()POWER()TRANSMISSION
S11	2	CO='SIEMENS CORPORATION'
S12	38	S SIEMENS()CORPORATION
S13	437	S S1:S8 OR S10:S12
S14	13	S (SYMBOL???? OR CODE? ? OR BARCODE? ? OR DATA) (3N)GENRAT????
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S16	148385	S (SYMBOL???? OR CODE? ? OR BARCODE? ? OR DATA) (3N)GENERAT????
S17	10	S S13 AND S16
S18	128383	S GUI? ? OR GRAPHICAL()USER()INTERFAC????
S19	1	S S17 AND S18

17/9/4 (Item 4 from file: 275) Links

Gale Group Computer DB(TM)

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02168787 **Supplier Number:** 20424586 (This Is The FULL TEXT)

How to Climb Aboard The PC-Based Bar-Code Bandwagon.(automated data capture)(Buyers Guide)

Baldwin, Steve

Computer Shopper , v18 , n4 , p8(1)

April , 1998

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ISSN: 0886-0556

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Word Count: 2396 **Line Count:** 00206

Text:

One of the great and largely untapped growth markets for forward-thinking VARs

is in supplying automated data capture (ADC), sometimes referred to as automated identification and data capture (AIDC), systems. These systems

provide large and small businesses with the means to track inventory efficiently using PC-based hardware and software solutions.

Used in stores; distribution centers; and wherever parts, components, or

finished goods are kept, ADC has one basic purpose: to acquire reliable

information about physical objects and provide businesses with more efficient

use of time, people, and materials.

The market for ADC is growing because the technology helps maximize profits by

minimizing the costs associated with maintaining inventories in paper-based

systems. Faster turnaround of inventory, more accurate orders, increased

productivity, and better equipment utilization and customer service are all

direct results of successful ADC implementations. Because its crucial information can be made instantly available to other departments, ADC is a key

enabling technology producing improved business intelligence throughout the organization.

As American business searches for ways to compete in a global market, senior

managers are perceiving ADC as a necessity, not an option. Because ADC systems

often pay for themselves within 12 to 18 months, U.S. corporations are more

willing than ever to invest in automated, streamlined inventory-control

systems. Experienced VARs, already expert in designing networked, PC-centric

solutions for business, are well-positioned to capitalize on this trend.

ADC Moves to the PC

In years past, ADC systems were often based on mainframe, minicomputer, or

Unix platforms. The setups used proprietary operating systems and software,

and they were expensive, inflexible, and hard to maintain and redesign.

Although government agencies, Fortune 500 corporations, and supermarket chains

were early adopters, the cost and complexity of ADC systems kept them from

catching on among small and midsize businesses. Even today, some estimates put

ADC penetration at a mere 5 percent of all U.S. businesses.

Recently, however, PC-based ADC systems have become powerful enough to provide

viable options for the enterprising VAR. As PC hardware costs have fallen, a

small army of suppliers of ADC hardware peripherals and specialized software

has arisen.

Also fueling the growth of the ADC market is the widely publicized year 2000

issue, which has forced many corporations to take a new and critical look at

their older inventory-management systems.

This trend is supported by a recent study published by ChainStore Guide, which

reports that a majority of U.S. retailers are shifting from mainframes to

distributed computer systems and that most intend to replace their existing

systems within the next 12 months. All these developments have combined to

make entry into this market attractive for VARs.

ADC and Bar coding

The technological heart of ADC is a powerful, mature, and highly standardized

technology widely used for more than 20 years: bar coding.

ADC systems consist of three core components: bar-code readers, bar-code

printers, and the bar-code symbols themselves. Together with the PC to which

they're connected, they constitute a simple but powerful and highly flexible

way to capture data without manual notation or keyboard input--one

which can
be applied to virtually any business environment, from medical office
to
warehouse floor to retail store.
Speaking of environments, there are no special requirements for PCs
used in
ADC systems, with the rare exception of installations in a
particularly dirty
setting such as a kitchen or an exposed warehouse. There, an enclosed,
rack-mounted, or ruggedized unit may be required.

Bar-code Readers
Bar-code readers come in two main types: contact and noncontact.

Contact
readers must be passed directly across or near a barcode symbol, and
are
available in wired and wireless variants. Noncontact readers use laser
beams
to read the bar code from a remote distance.
Each type of reader consists of an optical detection system to read
the bar
code, plus a decoder to convert the pattern of reflected light into an
electrical signal representing the symbol.
Inexpensive wand or pen-type readers are fixed devices connected
directly to a
PC; battery-operated batch readers store data until downloaded to a
host
computer. More expensive wireless bar-code readers are capable of
communicating with a host computer in real time via spread-spectrum or
narrowband RF signals.
The most sophisticated barcode readers do more than simply enter data
into the
PC--they function as two-way devices that can communicate instructions
from
the PC to the operator, warning of possible entry errors or directing
the
operator to the next location.
Manufacturers of bar-code scanners include American Microsystems,
Americode,
Intermec, Opticom, Percon, Symbol, and Telxon. Distributors include
ARCO,
C/SCAN, Compsee, Integrated Barcode Technology, Zebra Technologies,
and
others.

Bar-code Printers
Although a conventional laser printer can be used to
generate bar-code labels,
many ADC installations use special printers optimized for outputting
bar codes
to media such as pressure-sensitive labels for boxes or bins. These
printers
often use thermal or impact technology to **generate bar**
codes, which must not
fade, smudge, or degrade in variable environmental conditions.
Clients may or many not require an in-house bar-code-printing

capability. Some

industries such as libraries prefer to buy ready-made labels from one of many

preprinted-bar-code-label vendors, usually due to special environmental

conditions or supply requirements. Library bar-code labels, for instance, are

usually ordered in large quantities and must be readable for 25 years.

Manufacturers of bar-code printers include CodeWriter Industries, Datamax,

Eltron, Intermec, Monarch, SATO America, Worthington Data Systems, and others.

Distributors include Ingram Micro, Progressive Microtechnology, Tech Data,

Zebra Technologies, and others.

Bar-code Basics

Bar codes consist of a series of vertical lines and spaces representing an

alphanumeric character set, capable of being scanned and interpreted by a

bar-code reader. There are about 40 different kinds of bar-code types or (to

use the trade jargon) symbologies, but only a handful are widely used. The

most familiar of these is the Universal Product Code (UPC), the North American

standard for bar-code identification.

UPC is the oldest bar-code type and is capable of storing only basic identification strings. Nonetheless, it is an appropriate choice because of

its universality and conformance to widely accepted packaged-goods industry

coding practices.

Because some clients may have to comply with specific standards in an industry, you need to know about some other significant bar-code

types. These

include Code 39, a symbology supporting a limited set of alphanumeric characters, which is widely used for general-purpose product

identification

and is the standard used by the Department of Defense.

Another symbology, Code 128, is a high-density bar-code capable of storing an

entire 128-character set plus foreign-language characters. It is widely used

in container-shipping applications requiring multinational readability.

Bar codes themselves don't contain much information beyond a simple code

number. Once this information reaches the host computer, it is used to look up

a corresponding record in a database containing information associated with

the bar code: price, warehouse location, number on hand, or whatever.

ADC Application Software

Application software is the crucial glue that binds the ADC hardware together.

Because each industry implementing ADC has its own special set of needs,

considerable customization is often necessary.

But a fair number of software development kits from a multitude of vendors can

go a long way toward providing off-the-shelf solutions, by serving as middleware between the ADC system and the client's enterprise-wide information system.

If a client's site is running Windows 95 or Windows NT, the software integration battle is half won. Developer kits for Delphi, Visual Basic, and

Visual C++ permit the easy integration of bar-code functionality with many

widely used database applications. ActiveX controls for **generating bar codes**

are also becoming available, opening the door to all applications supporting

this technology, including Delphi, Microsoft Access, Visual FoxPro, and

others.

If you're fortunate enough to be dealing with a client with limited customization requirements, you can choose from among a wide variety of

off-the-shelf bar-code-enabled applications, including Calgary Software's

WinSell, Retail Technologies International's Retail Pro, and Zebra Technologies' Barcode Anything. Whether one of these generic applications will

work, of course, depends on how much customization is required, but many

software vendors offer customization services that might do the job.

In addition to the three already mentioned, bar-code-software vendors include

Accu-Sort Systems, Atlantic Bar Code Systems, Datavision,

Hand Held Products,

Matrix Graphics, Smead, and others.

Special Considerations for the ADC VAR

Clients seeking ADC solutions require a high level of integration and support,

and naturally prefer to deal with VARs that have a track record of providing

successful solutions rather than with newcomers to the field. But if you're

willing to take the time and effort to cater to the special needs of your

first ADC customer, you can break into this market and grow with it.

When handling your first ADC prospect, the most important conceptual step is

to put yourself in your client's shoes. If people are already calling

you, you
don't have to sell them on the benefits of ADC, but you do have to do
a lot
more than simply fax them a brochure on your standard hardware bundle.
It's up
to you to draw out the highly specific information necessary about
exactly how
their organizations plan to use ADC.
Where will a new system be located: a warehouse, point-of-sale, or
distribution center? Will the new system be stand-alone or need to
work with
existing computer systems? What platforms are running now, and with
what
specific applications? If a client can't supply these answers in
detail, try
to arrange a conference call with an IS representative. You need to
obtain as
much detailed information as possible to avoid confusion later.
You should also know the one thing that really scares many potential
ADC
clients: the nightmare of receiving a bunch of hardware and some
shrink-wrapped software, and then having the VAR walk away. You must
position
yourself as a solution provider who will stay with the installation,
provide
any necessary staff training, and stand alongside the client
throughout the
system shakeout period.
Although the components of a successful ADC system are
straightforward, expect
to do more hand-holding than you're used to doing when installing a
garden-variety network. Why so much support? Your clients may never
have
operated an ADC system before; their staffs may not be PC-literate;
and
(heaven forbid), there may be a few unexpected problems with any new
system.
So before tackling this market, you need to maximize your capacity to
support
your clients. Remember, ADC is a mission-critical application whose
failure or
interruption will put your clients out of business--and possibly stop
payment
on your check--until it's fixed.
If you can't offer a 24x7 telephone help line, you may be able to beef
up your
support arsenal in a number of important ways. Make sure
documentation, user
manuals, and software updates are freely available for clients to
download
from your Web site. This will minimize hits on your phone support
lines and
impress potential clients with the fact that your post-sale support is
always

available.

If landing the contract is crucial to your business, investigate the possibility of contracting some support chores out to a specialized support

house familiar with ADC and bar-code applications. And by all means, visit the

clients' facilities firsthand to inspect any environmental, human, or other

variables that might be germane to the operational success of your systems.

Your clients will love you for it.

Given the mission-critical nature of ADC and its attendant support demands,

plus the nontrivial task of customizing ADC applications for clients in

different vertical markets, some VARs might reconsider going it alone and opt

to ally themselves with a major distributor of ADC hardware. The benefits of

forging such a relationship include getting the distributor to pitch in on

support, software customization services, and lead referral, plus the other,

often substantial benefits that a thoughtful VAR program can provide.

Be careful when choosing a distributor, however. You need to be assured that

the company from which you're buying products won't turn around and compete

against you. So look for a distributor that has pledged to refer leads to you

and not deal directly with end users. And before you sign on the dotted line,

make sure the distributor is recommending technology to you on its merits, not

to meet manufacturers' quotas.

If you can get over the hurdles of your first ADC installation, you'll benefit

enormously in years to come. As American business looks to squeeze more

efficiencies from its distribution chain, ADC solutions will become a hot,

lucrative market for the technology-solution provider.

Resources for ADC and Bar-Code Technologies

AIM USA, the national trade association for the automated identification and

data capture industry -- www.aimusa.org

APICS, the Educational Society for Resource Management -- www.apics.org

Integrated Business Communications Alliance -- www.isit.com

Reseller Resources

Manufacturers of bar-code scanners include:

American Microsystems (www.americanmicrosystems.com)

Americode (www.americode.com)

Intermec (www.intermec.com)

Opticom (www.opticom-inc.com)

Percon (www.percon.com)
Symbol (www.symbol.com)
Telxon (www.telxon.com)
Distributors of bar-code scanners include:
ARCO (www.arcodist.com)
C/Scan (www.cscan-usa.com)
Compsee (www.compsee.com)
Integrated Barcode Technology (www.intbar.com)
ScanSource/Zebra Technologies (www.zebra.com)
Manufacturers of bar-code printers include:
CodeWriter Industries (www.codewriter.com)
Datamax (www.datamaxcorp.com)
Eltron (www.eltron.com)
Intermec (www.intermec.com)
Monarch (www.monarch-marking.com)
SATO America (www.satoamerica.com)
Worthington Data Systems (www.barcodehq.com)
Distributors of bar-code printers include:
Ingram Micro (www.ingrammicro.com)
Progressive Microtechnology/Tech Data (www.techdata.com)
Zebra Technologies (www.zebra.com)
Bar-code software vendors include:
Accu-Sort Systems (www.accusort.com)
Atlantic Bar Code Systems (isit.com/centers/vendors/atlantic.cfm)
Calgary Software. (www.cadvision.com/winsell)
Datavision (www.data-vision.com)

Hand Held Products

(www.handheld.com)
Matrix Graphics (isit.com/centers/vendors/mgc.cfm)
Retail Technologies International (www.retailpro.com)
Smead (www.smead.com)
Zebra Technologies (www.zebra.com)

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Descriptors: Hardware Buyers' Guide; Inventory Control Software; Warehouse Management Software; Software Buyers' Guide; Barcode/Mark Reader; Barcode Printer

Product/Industry Names: 7372416 (Manufacturing, Distribution & Retailing Software); 3573243 (Barcode Readers); 3579648 (Bar Code & OCR Labelers)

SIC Codes: 7372 Prepackaged software; 3577 Computer peripheral equipment, not elsewhere classified; 3579 Office machines, not elsewhere classified

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17/9/6 (Item 6 from file: 275) Links

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Southern utility company energized by automatic data collection system. (Duke Power)

Duffy, Ellen M.

Industrial Engineering , v24 , n10 , p29(3)

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Language: ENGLISH Record Type: FULLTEXT; ABSTRACT

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Abstract: Duke Power has realized significant productivity and efficiency gains by implementing an enterprise-wide automatic data collection (ADC) system. By using 150 hand-held scanners with built-in scanners, staffers have cut in half the time required to track materials and supplies. The scanners have also generated substantial savings of time, effort and money. Under the new system, all goods arriving at Duke Power's central warehouse are labeled with a Code 39 bar code. Data on each item is uploaded from a microcomputer to a mainframe, making the system practically paperless. Items are carefully tracked as they are shipped to regional warehouses, stored and dispatched. Each weekend, Duke Power's mainframe-based material management information system (MMIS) surveys each item in every warehouse for location and status.

Text:

A Charlotte, N.C. based utility company powered its way to higher productivity, better organization and greater efficiency by employing a data collection system for use throughout their operation.

Before turning to automatic data collection (ADC), Duke Power, which provides service to 1.6 million customers in parts of North and South Carolina, issued materials and supplies and tracked their inventory manually. Paper and pencil were their main tools.

Now, these same operations are carried out in less than half the time with the aid of 150 hand held computers with built-in scanners. Specifically, the scanners are used to track physical inventory in Duke Power's centralized warehouse as well as the company's regional warehouses. The scanners are also used to issue materials.

Steve Perkins, Duke Power's system administrator says, "With these scanners, we eliminated most of the manual data entry associated with inventory. Subsequently, our inventory accuracy has increased substantially. Our goal is to be 98 percent accurate--a goal we have attained in some locations."

Aim and shoot

Karin Covington, also a systems administrator for Duke Power, says the company needed a self-contained scanner that only required one hand to operate. The company also needed a non-contact scanner that could "shoot" a bar code from several feet away.

Covington says, "Because our inventory is stored on static shelving,

we needed a scanner that was non-contact. We no longer waste time climbing ladders to make contact with the bar code label. Now, even if we are standing five feet away, we just aim and shoot the item's location. The data we need is captured in a split second, expediting the entire process."

The system significantly reduces the amount of paperwork normally associated with manual systems, saving time and money for Duke Power. "The whole process is streamlined with the scanners," says Perkins.

The hand-held laser wands, supplied by **Hand Held Products**, Charlotte, N.C., are self contained units that provide 128 K of RAM. Powered by a NI-Cad battery, each unit a 33-key alphanumeric keyboard, a backlit display and I/O interface. They only require one hand to operate, freeing up the other hand for associated tasks, such as counting.

Issuing of bar code labels

All incoming goods arrive first at Duke Power's centralized warehouse. Here, a label with a Code 39 bar code is attached to every incoming item. These labels, which also contain some alphanumeric **data**, are **generated** by the centralized warehouse's two thermal printers.

Connected to a PC, the printer produces bar coded labels, each of which contains a unique ID number, a very brief description and the unit of issue. The printer's PC received this information from the company's mainframe computer. The bar code issued for each item is registered by the PC for upload to the mainframe for future tracking purposes, allowing for a practically paperless system.

When a regional warehouse receives a shipment from the centralized warehouse, the clerk consults the receiving document, which contains the part's unique ID number, the purchase order number, the quantity on the purchase order and the bin location to ensure it is the correct material in the correct location.

Issuing materials

The issue materials sequence begins when a Duke Power linesperson arrives at a warehouse to collect material for a job. Those materials may include anything from nuts and bolts to transforms and cable.

The linesperson presents the list to the Duke Power clerk. Armed with the scanner, the operator begins the picking process. Upon reaching the first location, the operator scans the location's bar code. The scanner prompts the clerk by asking for the quantity of the issue. The clerk enters the quantity to be picked. After picking the needed quantity, he or she moves on to the next item.

Once all the items are picked, the operator returns to the PC workstation, placing the scanner in its HomeBase. The HomeBase, which also serves as a recharging station, provides a serial RS-2320 data link between the hand held computer and the PC. Typically, the scanners are uploaded after several jobs have been completed.

When the data is uploaded to the PC, any necessary changes or corrections to the issue can be made. With the input completed, the data is transmitted to Duke Power's mainframe in Charlotte.

To quicken the upload to the mainframe, Duke Power uses Emulation Entry High Level Language Application Program Interface, better known as EEHLLAPI. This program simulates keystrokes, allowing for a seamless and smooth upload that practically reduces the rate of error to zero. When performing issues, it updates the related screens. Inventory screens are also updated during physical inventory. When the data reaches the mainframe

computer, items issued are depleted from stock, giving Duke Power almost real time status of its inventory.

Scanners speed inventory

All of Duke Power's regional warehouses manage their own inventory, but the status of the inventory is monitored by the company's material management information system (MMIS). Each weekend, the mainframe runs a batch report that serves as a roadmap to each warehouse. In every warehouse location, the computer surveys each item for the bin location and the issue unit, whether it be a case, a box, a pair or an individual item.

During business hours, each warehouse coordinator can access this report to facilitate their weekly inventory. The coordinator requests MMIS to release the data on the aisles to be counted to the PC. Once downloaded, the PC, in turn, transmits the data to the hand held computer. The operator heads out to the designated area with the scanner, which can inventory up to 100 parts per upload. The scanner's display prompts the user through the entire process.

The part's unique ID number appears first in the display. To verify it is the correct location, the operator scans either the bin location or the item itself. The user then begins to manually count the items in the location. Using keystrokes, the final count is entered into the scanner. The computer then displays the count the MMIS has on record. If there is a discrepancy between the two numbers, the scanner asks the operator if a recount is necessary. The operator may either proceed or recount the items.

When the last item has been counted, the operator returns to the PC workstation, where the scanner is placed in its base unit for uploading.

Each warehouse has several scanners in use, so the PC can hold the data of several scanners in one upload file. When all the data has been gathered, the warehouse clerk uploads the data to the mainframe. Again, this process is aided by the EEHLLAPI system.

With the old manual system, at one warehouse Duke Power needed three employees to conduct inventory over a three month time span. Now, using a scanner, one employee completed the inventory in less than three months.

Use of ADC continues to expand

Perkins says Duke Power is continually exploring new applications for automatic data collection. Duke Power plans to use the scanners in their corporate library. These future plans call for bar coded publications to be tracked via employees' bar coded employee badges.

Other uses of the automatic data collection are explored at Duke Power's Bar Code Users Group. Servicing Duke Power's 19,000 employees and ultimately their customers, the group meets on a quarterly basis. The objective is simple: to learn how to solve problems via automatic data collection solutions. A newsletter also helps keep members informed of new development both in the company and in the industry.

Perkins says, "We're a big supporter of automatic data collection. It's really spreading to other parts of the company, but that's not surprising. The payback is great and the benefits are excellent."

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Special Features: illustration; photograph

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Bar code s'ware for Mac introduced at Scan-Tech. (software, Scan-Tech trade show)

Reisman, Averil

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Abstract: Several optical scanning devices, portable data collection computers, and a software package are among products featured at the Scan-Tech trade show. Kessler*Rollins introduces Barrage, a bar code software program for Apple Computer Macintosh (Mac). Barrage permits the Mac to connect with any mainframe, minicomputer or microcomputer and drive several printers simultaneously, each running a unique format. The software includes page layout features for producing bar-coded documents, labels or tags. Telxon Corp introduces its PTC-730 16-bit CMOS hand-held portable workstation. The battery-operated PCT-730 supports MS-DOS 3.2 and includes up to 4 Mbytes RAM in a 28-ounce box. **Hand Held Products** introduces Laser-Wand, a portable microcomputer with an integrated non-contact scanner. Vertex introduces a hand-held data collection terminal.

Text:

Bar code s'ware for Mac introduced at Scan-Tech

CHICAGO -- Barrage, a barcode software program for the Mac, was recently unveiled by developer Kessler Rollins Roseville, Calif., at Scan-Tech recently, a trade aimed at the scanning market.

The new software incorporates page layout features for producing bar coded documents as well as labels and tags in all industries in which bar codes are presently in use.

According to Peter Kessler, co-founder, Barrage turns the Macintosh into a bar coded document production engine, capable of communicating with any mainframe, mini or pc presently **generating data**.

He said the software will drive several printers simultaneously, printing out bar coding documents, labels and tags in unique formats for each printer.

The software is the first product brought to market by the young VAR operation which also does Macintosh-based bar code system design and integration for service, retail, manufacturing, distribution and health care environments.

Also introduced at Scan-Tech were a variety of new dedicated microprocessor hardware scanning devices.

Akron, Ohio-based Telxon introduced PTC-730, a 16-bit CMOS hand-held portable workstation that supports MS/DOS 3.2 and includes up to 4 Mbytes

RAM storage.

The battery-operated device has either 8 or 16 line displays and weighs 28 ounces. A serial port supports RS-232 and RE-422 connections to pcs, minis and mainframes.

The unit has 64 to 128 K ROM capacity for non-volatile program storage in interchangeable application ROM cartridges, also called ARCs.

Another company, **Hand Held**

Products, Charlott, N.C., introduced Laser-Wand, which is a microcomputer with an integrated non-contact scanner.

The Laser-Wand weighs 17 ounces and includes an 8-bit microcontroller, 128K CMOS RAM expandable to 640K, 33 key alpha-numeric keyboard, 32 character backlit display, 64K CMOS EPROM, autodiscrimination between all popular bar code symbologies.

The device interfaces to pcs, printers, mainframes and modems and any RS-232 device.

Vertex, Clifton, N.J., introduced a hand-held data collection terminal containing a 16 bit 8088 microprocessor with 256K RAM. Called the Vertex Model 6041A Portable Data Collection Terminal, the system includes the Vertex Bridge Data Collection Software Package that facilitates collection of bar coded data in realtime.

Special features include the ability to create or delete data files, the ability to function as a remote battery-powered Data Collection Terminal, or to act interactively as a node on a pc driven system.

The basic model with resident Bridge software lists for \$1,895 and is available immediately.

Panasonic added several portable data collection computers to its Data Partner line of portable data collection computers.

The lower priced Model JT-760, listing at \$999, is designed as a low cost alternative for companies who want to perform automate basic collection functions and take advantage of 16-bit technology, said Fred LaPointe, Data Partner line product manager.

The unit has an 80C88 microprocessor and comes standard with 65K RAM expandable to 256K. The JT-760 features a 4-line character graphics-capable display which an alpha-numeric keyboard.

A built-in acoustic coupler option supports one-way, 1200 baud communications and other additional options for the JT-760 include barcode readers, an attachable 24-column micro-printer and a 2-way, 1200 baud, snap-on modem. The unit will be available in the first quarter 1989.

The Model JT-770 was introduced with an EDI ANSI X12 software interface package for retailers interested in electronic data interchange.

The 18-ounce unit, listed at \$1,795, has a backlit 8-line by 20-character display and comes equipped with 256K RAM, expandable to 960K, and two-way communications capability.

Options include a snap-on modem, a battery-powered printer and barcode scanners.

The software is designed to help retailers take inventory and sales counts and transmit the information to a remote, host computer in EDI ANSI X12/VICS format. The software also feature script files which support automatic dialing and communications with multiple vendors and public data networks.

Other new scanners were also introduced.

Intelligent Controls, Lynnwood, Wash., announced a line of hand-held portable bar code scanners known as the Data-Colt System 3000.

Expected to be sold through the reseller channel, the system includes

a cordless, infrared bar code scanner for unrestricted movement while recording data.

The scanner is powered by rechargeable NiCd batteries and transmits data to a host computer via a wall receiver/transmitter. The scanner can also receive data that can be read on the 16-character alpha-numeric LCD display and also used to page the operator.

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Company Names: Kessler*Rollins--Product introduction; Telxon Corp.--Product introduction; **Hand Held Products Inc.**--Product introduction; Vertex Industries Inc.--Product introduction

Descriptors: Product Introduction; Barcode/Mark Reader; Software Packages; Scanning; Laptop/Portable Computer; Data Collection; Workstations; Computer Terminal; Trade Show

SIC Codes: 3577 Computer peripheral equipment, not elsewhere classified; 7372 Prepackaged software; 3571 Electronic computers

Trade Names: Barrage (computer program)--Product introduction; Telxon PTC-730 (Portable computer)--Product introduction; **Hand Held Products Laser Wand** (Portable computer)--Product introduction; Vertex 6041A (Portable computer)--Product introduction

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